

SB-5324

Photochemistry and Photosynthesis: General concepts and historical background, evolution of photosynthetic apparatus, Redox reactions, photosynthetic pigments and light harvesting complexes, photooxidation of water, mechanisms of electron and proton transport, structure, synthesis and function of ATP, carbon assimilation-the Calvin cycle, photorespiration and its significance, the C_4 cycle and CAM pathway, biosynthesis of starch and sucrose, physiological and ecological considerations.

Respiration and Lipid metabolism : Plant respiration, glycolysis, the TCA cycle, electron transport and ATP synthesis, pentose phosphate pathway, glyoxylate cycle, alternative oxidase system, structure and function of lipids, fatty acid biosynthesis of membrane lipids, structural lipids and storage lipids and their catabolism.

Nitrogen fixation and nitrogen metabolism: Biological nitrogen fixation, nodule formation and nod factors, biosynthesis of amino acids and proteins, mechanism of nitrate uptake and reduction.

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